

Halfway to Heaven

Celebrating 100 Years of

My grandmother used to say, “If we were meant to fly, we would have been given wings.” And perhaps years ago, her feelings were shared by others as they watched men and women taking risks to unwrap the wonders of aviation.

She knew of Orville and Wilbur, Charles and Amelia, even Chuck and John and Neil. She saw aviation pioneers filled with passion and curiosity make history. Would we truly learn or know of the heart’s desire to fly?

“Flying is like being halfway to heaven,” says Les Featherston, a lifelong lover of aviation. “There’s nothing more beautiful.

It’s peaceful and clean and wholesome. It’s like being totally disconnected from problems and implications of life on earth.”

And here we are, 100 years later, celebrating the centennial anniversary of the Wright brothers’ first powered flight – an accomplishment that changed the world and the skies. It was 1903 in Kitty Hawk, N.C., when the brothers launched the Wright Flyer, giving birth to an era of modern aviation.

At the time Orville and Wilbur didn’t know that a plane called the “Spirit of St. Louis” would take Charles Lindbergh on the first nonstop solo flight across the Atlantic Ocean. Or that a young woman named Amelia Earhart would become the first woman to fly solo across the Atlantic, and then, five years later, be lost over the Pacific Ocean in her attempt to fly around the world. Or that Gen. Chuck Yeager would be the first man to fly faster than the speed of sound.



Danita Aquiningoc, U.S. Postal Service district manager, and Gov. Bob Holden unveil the new commemorative Wright brothers’ stamp.



f Powered Flight

The Wright Brothers

Wilbur, the oldest, was born April 16, 1867, in Millville, Ind.; Orville was born Aug. 14, 1871, in Dayton, Ohio. Their interest in aviation began early in their childhood. The brothers were printers and bicycle makers before dabbling with flying machines. Their clever mechanical abilities led them to the formation in 1892 of the Wright Bicycle Company in Dayton. Orville and Wilbur's formal education ended with high school graduation. Though they received no formal technical training, they became self-taught engineers and were known for their creative thinking in matters of science.

History records that it was Orville who noted that soaring birds maintained lateral control of flight by flexing the tips of their wings. With this in mind, the Wright brothers began in 1899 by building a biplane kite that led them to greater achievement.



The constant winds and soft sands for cushioning accidents of Kill Devil Hill near Kitty Hawk became the experimental grounds for the brothers in 1901 and 1902 as they flew a series of gliders.

It was a cold cloudy day, Dec. 17, 1903, on Kill Devil Hill at approximately 10:35 a.m. when the Wright brothers became the first men in history to make sustained, controlled, powered flight. Orville, who

"It is my belief that flight is possible and while I am taking up the investigation for pleasure rather than profit, I think there is a slight possibility of achieving fame and fortune from it."

made the first of four flights that day, went a distance of 120 feet. The fourth flight, by Wilbur, went 852 feet. Their Wright Flyer was made of muslin, wood and steel, and traveled 31 miles an hour along the North Carolina beach.

After returning to their home in Dayton, Ohio, the brothers continued to experiment and fly. Historical accounts indicate the men were largely ignored by the world, and the news media refused to believe man had flown. Their first recognition as the inventors of flight was in France.

However, acclaim and financial success soon followed in the United States. They continued to improve their "flying machine." During 1904 and 1905, the Wrights built and tested new planes and engines. The first real "airplane," named the Flyer III, could turn, bank, circle and stay airborne for more than 30 minutes. In 1909, the U.S. Army bought the first Wright airplane.

Neither Wilbur nor Orville ever married, and after Wilbur died of typhoid fever in 1912 at the age of 45, Orville continued to work as an engineer and consultant in the aeronautical fields until his death in 1948.

Today in Kitty Hawk, a 60-foot granite national monument, dedicated in 1932, is perched atop the 90-foot tall Kill Devil Hill commemorating the achievement of the brothers. And now history gives both the credit and the honor to the Wright brothers for giving the world the aeronautical technology that changed the course of history. They are recognized as giving mankind a great and vital commercial air-transporta-

Wilbur Wright, Sept. 3, 1900

tion system, the aerospace industry and air power for defense.

Missouri's Contribution to the Skies

Here in Missouri, aviation has played a significant role in the state's history and is a key part of the state's future.



President Kennedy addressing employees of McDonnell spacecraft operations in St. Louis in 1962

Missouri Gov. Bob Holden, at a late-summer ceremony in Jefferson City honoring the centennial anniversary, said that Mis-

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Missouri had a rich aviation history and has played a vital role in the development and use of flight.

"Missouri has over 12,000 registered pilots and 6,200 registered aircraft," Holden said. "We also have the largest and most active, general-aviation pilots organization in the country in the Missouri Pilots Association."

General aviation includes all civilian flying – small business, private and corporate – except passenger airline service and the military. General aviation and related activities provide jobs – employing nearly 638,000 people. Over 500,000 of the nation's 635,000 pilots fly general-aviation aircraft.

According to the Aircraft Owners and Pilots Association, general aviation is a \$64.5 billion dollar U.S. industry providing economic growth to state and local economies. The AOPA is one of the largest and most influential aviation associations in the world. More than 370,000 people are AOPA members, which is more than half of the pilots in the United States.

Missouri is a vital part of that industry and of the nation's aviation system. More than 160,000 tons of cargo are transported by air annually in the state, and the aviation industry provides jobs for more than 16,000 Missourians.

Aviation at MoDOT

Missouri's role in aviation began in 1945 under the Department of Resources and Development. Communities could receive a one-time \$10,000 grant for airport establishment, provided through the Memorial Airport Act. In 1965, an aviation section was formed in the Division of Commerce and Industrial Development. Airports were eligible for grants up to \$25,000 with a \$150,000 annual budget.

The section was moved in 1974 to the Transportation Department and an Avia-

50 Flags to Kitty Hawk

Pilot

"Jefferson City ground control. This is Rocket 206 kilo tango taxi with information centennial of flight."

Ground Control

"Taxi to runway 1-2. Expect east departure."

Pilot

"Jefferson City tower Rocket 6KT ready for departure."

Ground Control

"Cleared for take off to Kitty Hawk for Centennial Celebration. Godspeed."

It was a bright, sunny fall day when Les Featherston took to the blue skies from the Jefferson City Memorial Airport. He left Oct. 5 bearing gifts from the State of Missouri. As the state's official centennial of flight celebration pilot, Featherston flew to Kitty Hawk,



Les Featherston holds the state proclamation honoring the Wright brothers' flight.

N.C., on a mission to deliver Missouri's state flag and an official proclamation from Gov. Bob Holden honoring the 100th anniversary of powered flight.

Featherston was recognized at a Centennial of Flight Celebration in Jefferson City Aug. 25. "You have been selected as an outstanding member of Missouri's aviation community to represent the state in the "50 Flags to Kitty Hawk" program," said Holden.

"I present to you this state flag and proclamation to take with

you on your flight to Kitty Hawk, the site of that first historic flight by the Wright brothers. You represent a state with a rich aviation history."

The program "50 Flags to Kitty Hawk," is part of the Countdown to Kitty Hawk celebration scheduled on the anniversary of Orville and Wilbur Wright's famous first flight on Dec. 17, 1903. All 50 states are delivering flags to Kitty Hawk as part of the program sponsored by the Experimental Aircraft Association, the National Park Service and Ford Motor Company to highlight the states' aviation achievements.

After Featherston arrived in Kitty Hawk, the Missouri flag was raised and flown throughout the day at the Wright brothers' National Memorial. By the Dec. 17 official anniversary date, all 50 state flags were flying as part of a permanent display. Countdown to Kitty Hawk features an interactive tour pavilion and the world's most-accurate 1903 Wright Flyer reproduction that will re-enact the Wright brothers' first flight.

The Experimental Aircraft Association selected Featherston as Missouri's centennial flight representative. He flew his homebuilt Harmon Rocket II, a seven-year project he completed during this centennial year, to Kitty Hawk.

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tion Trust Fund was established to assist in airport maintenance and to publish an aeronautical chart. The annual budget was increased to approximately \$200,000. In 1980, the Highway Department merged with the Transportation Department, and in 1989, the agency began distributing federal airport funding to general-aviation airports under the State Block Grant Program.

The state's aviation business is now directed by the Multimodal Operations unit of the Missouri Department of Transportation. The section administers approximately \$4 million in state and \$11 million in federal funding for airport maintenance and capital-improvement projects annually. Other duties include airport safety inspections, maintaining a state airport-system plan, airport traffic counts and promoting aviation education.

"At MoDOT, we are keenly aware of the positive impact aviation has in Missouri as well as the rest of the country," said MoDOT Director Henry Hungerbeeler. "Missouri has made significant contributions to the aviation industry. Our aviation system is as diverse as our citizens. From grass landing strips to major international airports serving hundreds of flights daily, aviation affects, and benefits, us all."

Funding and Finances

MoDOT administers both federal and state aviation funds to eligible airports in Missouri. The Federal Aviation Administration oversees funding to larger passenger-service airports. Funds can be used for planning, purchasing, constructing, maintaining and improving aviation facilities at public-use airports. Missouri is one of 10 states administering federal funds under the State Block Grant Program.

In fiscal year 2003, a total of \$24 million in federal funds and \$3 million in state funds were invested in Missouri's aviation system. In 2002, the construction of the new North Central Missouri Regional Airport between the communities of Marceline and Brookfield, replacing two deficient airports, was completed. This was the sixth new airport built by MoDOT since 1990. Missouri currently leads the nation in construction of new airports. In this FAA block-grant state, MoDOT's aviation section is the approving authority for all airport master planning and airport layout plans for general-aviation airports in Missouri.

The State Transportation Assistance Revolving fund, administered by the Missouri Highways and Transportation Commission, assists political subdivisions in the develop-

ment of non-highway related transportation facilities. This includes aviation, rail, water or mass transit facilities. Low interest loans have been administered to airports for assistance in developing airplane hangars and fuel facilities.



Jack Jackson, test pilot and Missouri state representative, provided a demonstration of the Boeing Harrier AV8-B during Missouri's centennial of flight celebration.

State funding comes from the State Aviation Trust Fund, which derives its revenue from a portion of the state sales tax on jet fuel and a 9-cent per gallon tax on aviation gasoline.

Safety and Weather

Under contract with the FAA, MoDOT performs airport safety inspections at all public-use general-aviation airports in Missouri. Airports are inspected on average

50 Flags to Kitty Hawk

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"It's an incredible honor to be chosen to represent Missouri," Featherston said. "I consider this as a highlight and culmination of my flying career."

Featherston's father began teaching him to fly when he was 14 years old.

"It's always been the most interesting feeling to look straight down out of the plane's window during a takeoff and wait for the precise moment the tires lift off the runway," Featherston said. "It's an electric moment that I continue to feel each time I take off."

Another great moment, Featherston said, is taking off when the sky is overcast. "Popping through to a clear, blue, sunny sky is a magnificent feeling."

Featherston served in the U. S. Air Force as a fighter pilot in the late 1960s. He joined United Airlines in 1969, retiring in 2001 to his homebuilt airplanes and his own grassy airstrip at his home near Mt. Vernon. Featherston is a lifetime member of the Airline Pilots Association. He is also on the board of directors for the Missouri Pilots Association, the U.S. Pilots Association, the Experimental Aircraft Association and the Aircraft Owners Pilots Association.

"Flying has been hard work," Featherston says, "but there are moments that make it all worthwhile. Pure unadulterated joy is there for me on every single flight, and the opportunities are unlimited for aviation in the future. As we finish this first century of aviation, we are on the verge of quadrupling our progress. It will be geometric!"

For more information on Countdown to Kitty Hawk, visit the official web site at www.countdowntokittyhawk.org.

once every three years. Inspections focus on identifying safety concerns such as obstructions in the approach surface, nonstandard lighting and pavement markings, and poor pavement conditions. Information from these inspections is also used in several aeronautical publications.

Weather is obviously another priority concern for aviation. There are few items more important to a pilot than accurate weather information. When it comes to knowing up-to-the-minute landing and take-off conditions for an airport, the Automated Weather Observation System is a key tool for safety. The FAA maintains weather systems in airports around the state. The up-to-date weather information is accessible by telephone and aircraft radio.

In addition to the units currently operating, MoDOT has recently installed nine more weather systems at public-use airports around the state to supplement the existing system. The project received 90 percent federal and 10 percent state funding, and the units will be owned and operated by MoDOT under agreements with the individual cities. Additional systems are under design.

Planning

A study is under way that is the first comprehensive review of all Missouri general-aviation public-use airports since 1979. When completed it will guide the development of a 5-year capital improvements program for administering state and federal funds to Missouri airports.

A 14-member advisory team formed in November 2002 is guiding the study. This team is comprised of individuals with diverse backgrounds in the aviation and economic-development fields.

A program is under way at five general-aviation airports for an airport pavement-condition study. The five airports include Spirit of St. Louis, Fredericktown Regional, Perryville Municipal, Sullivan Regional and St. Charles County Smartt Airport.

Airport inventory and economic-impact surveys were also sent to all public-use airports in January 2003.

This survey will be a critical tool to gather input and update all the inventory data in the statewide system. The airport economic-impact study will be the first that has been completed for general-aviation airports on a state-wide basis.

Flight in the Future

"Missouri has a colorful aviation history and a bright aviation future," says Hungerbeeler. "MoDOT looks forward to continuing to develop partnerships with economic-development agencies and other governmental agencies and with airport owners to promote projects that upgrade airport facilities and stress the importance of the industry that had its beginnings just 100 short years ago."

The Wright brothers would be proud. Probably even my grandmother would smile when a F-15 flyover enticed her to look up, reminding us all of power, of progress and of passion. ■

For more information regarding aviation, contact MoDOT Administrator of Aviation Joe Pestka, 573-526-5571 or pestktj@mail.modot.state.mo.us.

Sue Cox is transportation planning special projects coordinator at MoDOT General Headquarters.

**John Glenn and Friendship 7
February 1962**



Charles Lindbergh

Missouri Aviation at a Glance

- Charles Lindbergh flew the "Spirit of St. Louis" from San Diego to St. Louis before beginning his historic solo transatlantic flight to Paris in 1927.
- Missouri aviation has played a vital role in national defense. The McDonnell Aircraft Corporation started building airplanes in St. Louis in 1939; it's now combined with Boeing to become The Boeing Company, a major builder of jet fighters and commercial aircraft.
- The B-2 Stealth bomber unit is housed at Whiteman Air Force Base in Knob Noster, and Blackhawk helicopters, a major component of the Missouri Air National Guard, are based at the Jefferson City Memorial Airport.
- Missouri's Mexico Memorial Airport is home to the Zenith Aircraft Company, one of the world's largest manufacturers of kit aircraft serving the aviation enthusiast seeking to build personal aircraft.
- There are more than 500 aviation facilities in Missouri, 127 of which are open to the public.
- St. Louis International Airport is home to 131 Fighter Wing F-15 Eagles of the Missouri Air National Guard.
- The Missouri Air National Guard 139th Air Lift Wing is based at Rosecrans Airport in St. Joseph. The MoANG serve as a training facility for military units around the globe. MoANG currently has nine C-130 Hercules military aircraft.

